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Outlined in this report developed at Goteborgs University are the construction and administering details for a test designed to measure passive proficiency in pronunciation of English as a second language. The phonemic choice, rhythm and intonation, and phonetic analysis factors of pronunciation are evaluated. A statistical correlation of the passive pronunciation proficiency test and an active proficiency test (taken by 250 of the original 270 participants in the experiment) also reveals implications for active-passive testing in language laboratory programing. (AF)

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ENGELSKA INSTITUTIONEN, GÖTEBORGS UNIVERSITET

PEDAGOGISKA INSTITUTIONEN, GÖTEBORGS UNIVERSITET

As teachers of modern languages we are anxious that our students should have a good command of both the spoken and the written side of the foreign language. We wish them to handle the language competently while they are engaged in producing it, that is, to speak it well and to write it well. Those are the active components of language proficiency and probably the ones we find the most important. Most of us will attach weight to the passive components, too: we also want students to handle the language competently when it is being presented to them. This, of course, involves oral and written comprehension.

In the modern language departments of our universities the great majority of the students end up as teachers themselves. In those departments it is evident that great importance must also be accorded to the passive side of language proficiency. A teacher must be able to spot inadequacies in the language of his pupils in order to correct them. To take a few trivial examples from English: if a teacher uses his own relative pronouns correctly but fails to react when one of his pupils mixes up his, or if he has a good pronunciation himself but does not notice and correct mispronunciations such as['weri] and ['wilidʒ] for very and village, he is not sufficiently well equipped for his task.

The fact that passive proficiency has not been subjected to much organized testing in our schools until quite recently,[1] can be ascribed, I think, to two circumstances. Firstly, adequate tests have not been available. Secondly, it has been thought that active and passive proficiency walk hand in hand - those who write a language well will normally understand it well when reading it - so that the traditional type of active test (translation, composition, reading aloud) was felt to cover the passive component, too. This discussion leads up to a question of great theoretical and practical interest: if there is a connection between the active and the passive side of language proficiency, as there seems to be, is it predictable within reasonable limits?

The answer to that question is obviously interesting theoretically. Practically, too, it could have important consequences. Suppose that we found a predictable coupling of active and passive proficiency in the field of pronunciation, so that if we knew a person's passive proficiency we could estimate his active. Then we ought to be able

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[1] The English tests for the studentexamen given at the end of 1967 included a "comprehension" section.

to construct a passive pronunciation test, make all our students take it, have their answers marked by computer and, a few days later, have a complete and objective record of the various pronunciation deficiencies of each student together with a ranking list. The gain in time, economy and objectivity would be drastic, in time and economy because highly trained specialists would no longer need to spend weeks on grading specimens of pronunciation, and in objectivity because the results of all the students taking the test would be treated in exactly the same way.

All this sounds somewhat unrealistic, to put it mildly,[2] but since there is so much to be gained, the matter seemed worth investigating. Out of the many factors making up language proficiency, that of pronunciation was selected as being perhaps the most interesting and promising from this point of view. People who find it difficult or impossible to perceive a distinction in a minimal pair, whether in the field of phonology or in that of intonation, can reasonably be expected to find it difficult or impossible to reproduce that distinction in their own speech: perception, it seems, is a prerequisite for production. It does not follow, of course, that those who are good at perceiving a distinction will also be good at reproducing it, but such a possibility cannot be ruled out from the start. So, since an objective method of assessing passive proficiency in pronunciation is desirable in itself, and since such a method may furthermore provide a means of assessing active proficiency objectively, pronunciation appeared very inviting indeed as a field of experiment. The benefits to be reaped would be considerable if the results of the investigation were positive.

Some energy was therefore devoted in 1967 in the English Department of the University of Göteborg to the problem of devising an adequate English passive pronunciation test. The first thing to do was to find out in detail what features in a person's pronunciation could be considered important. Naturally, the traditional type of pronunciation test here provided a great deal of information. Secondly, the relative weight to be accorded to each individual feature had to be estimated, which meant answering questions such as these: Which is the more disastrous for the general impression of a person's pronunciation of English: that he does not distinguish between boot and boat, or that

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[2] Cf. G.Perren, "Testing Ability in English as a Second Language: 3. Spoken Language", English Language Teaching XXII (1967), pp. 22-29: "It has been sometimes argued that there is sufficiently high correlation between performance in auditory skill and oral skill for separate tests of production to be largely unnecessary, but this view would seem to require more experimental evidence than is at present available." (p.26)

his d´s and t´s are all dental instead of alveolar? How much does a person´s good or bad intonation contribute to the general picture of his pronunciation? On the basis of such considerations a passive test was finally constructed.

The test, intended for use in the language laboratory, consists of language material recorded on a tape of about an hour´s duration, and of answer sheets for the students. It is in three parts, each dealing with one aspect of pronunciation. The principle behind all three is that the students are presented with a series of binary choices on tape. They make up their minds which of the two alternatives in each choice is the better one and record their answers on their answer sheets.

The first part of the test deals with the phonological system of English. 180 choices are presented, one after another, with a short pause after each, to the students. The choices are divided into 18 categories, 10 of them at the phonemic level and 8 at the sub-phonemic level. The English voice on the tape reads out two alternative pronunciations of an English word printed on the answer sheet, makes a short pause and then moves on to the next word. In each case one of the two pronunciations is more acceptable than the other. The decision to be made in each of the "phonemic choices" is of the type, "Is [het] or [hæt] the more acceptable representation of hat? Is ['vaikiŋ] or ['waikiŋ] the more acceptable representation of viking? At the sub-phonemic level decisions are of the type, "Is [skʌɬ] (dark l) or [skʌl] (clear l) the more acceptable representation of skull? Is [nik] (close i) or [nɪk] (half-close i) the more acceptable representation of nick?

The second part of the test deals with rhythm and intonation. A prose test, which the students have in front of them in the printed version, is read out to them on the tape. Now and again a sentence is repeated with a different rhythm or intonation, and the students are asked to decide which is the better version and to put down their answers on their answer sheets. There are 50 such choices.

The third part, finally, is concerned with the pronunciation of individual words seen in the light of the relation between spelling and pronunciation. Briefly, the pronunciation of the most frequent English words does not follow any general rules. As for the rest of the vocabulary, two groups can be distinguished: one, comprising the great majority of words, for which some fairly simple rules of pronunciation can be given, and another where no such rules apply.[3]

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[3] A. Wijk, Regularized English, Stockholm 1959, pp. 36-46; idem, Rules of Pronunciation for the English Language, Stockholm, Uppsala 1965, pp. 7-12; idem, Huvudreglerna för engelskans uttal, Stockholm 1966, "Inledning".

We thus have to do with three different types of words. They have been assigned a section each in this part of the test, each section consisting of 20 choices. In the first section the students are asked to choose between e.g. [pʊʃ] and [pʌʃ] for <u>push</u>, in the second between e.g. [iks'tremiti] and [iks'tri:miti] for <u>extremity</u> and in the third between e.g. ['hɔvə]and ['həuvə]for <u>hover</u>. The three categories are presented as one homogeneous group of words.

After a few trial runs, during which minor modifications were made, the test was adapted for computer-marking in co-operation with Göteborgs Datacentral för Forskning och Högre Utbildning. In December, 1967, about 270 students in the English Department of the University of Göteborg were submitted to the test, and shortly afterwards the computer delivered the results in tabulated form.

The tables of results give for each student his total achievement in the three parts of the test; also, his results in each category of the first and third parts of the test are given separately.[4] So not only are we told what discriminating powers a student has in this field in relation to his fellow students: it is also clear at a glance where his main deficiencies lie. Some students may have difficulties with the distinction between /s/ and /z/, others with the one between /e/ and /i/, some with intonation distinctions and others with the pronunciation of certain types of individual words. (The picture is, in fact, more complicated than that since each student exhibits his particular combination of such traits.) In principle, then, we ought to have the passive ability of each student fairly well mapped out in this way.

There remains the question of coupling between passive and active performance. If we know how well a person can discriminate between various items of pronunciation, does that tell us how good his own pronunciation is? - Most of those who took part in the passive test also took part in an active test, given on the same occasion, in which they were required to read printed test material aloud. The procedure was recorded on tape, and all the samples of pronunciation were later examined and marked. 250 persons took part in both types of test. There is thus scope for comparison between the types.

In the active test, students were graded from 9 to 1, 9 corresponding to 3 marks, 8 to $2\frac{1}{2}$, 7 to 2, 6 to $1\frac{1}{2}$, 5 to 1, 4 to $\frac{1}{2}$ and

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[4] Actually, much more information is contained in the tables, such as a specification of each student's answers, item by item, and the incidence of correct answers per item and per section.

3 - 1 to 0. In the passive test they could score from 690 and downwards. The comparison between the two tests could be presented in the following way. Active results are written in columns and passive results in rows. The results of those students who were given a 9 in their active test are placed in column 9 in the row which corresponds to their passive test, the results of those who were given an 8 are placed in column 8 in like manner, and so on. The outcome is shown in Table 1.

Table 1.

Active / Passive	9	8	7	6	5	4	3	2	1
681-90	1		1						
671-80	2	2	1	2	1				
661-70	4	11	6	4	2	1			
651-60	2	8	13	9	4				
641-50	3	7	11	8	2				
631-40	1	5	10	9	10	2			
621-30			11	1	10	5			
611-20			7	5	5	5	1		
601-10			5	2	2	4			
591-600			2	3	2	2	1		
581-90			3	1	9	2	1		
571-80			1	1	2	1			
561-70				1	3				
551-60					2				
541-50					2	1			
531-40					1		1		
521-30						2			
511-20									
501-10						1			

If there had been no correlation between the tests the values would have been sprinkled all over the table, and if the correlation

had been perfect they would have formed a narrow band stretching diagonally from the top left-hand corner to the bottom right-hand one. However, it would be unreasonable to expect perfect correlation - in fact, it is probably safe to say that in any comparison between two different tests it will never occur. In order to see how strong the link between active and passive proficiency actually is we may take the active test as our standard and demand of the new test that it should place the students in the same mark categories as are valid for the active test with a margin of half a mark on either side. If a band, thus defined, is drawn across the table so as to yield the best possible coverage the result will be as shown in Table 2.

Table 2.

Active / Passive	9	8	7	6	5	4	3	2	1
681-90	1		1						
671-80	2	2	1	2	1				
661-70	4	11	6	4	2	1			
651-60	2	8	13	9	4				
641-50	3	7	11	8	2				
631-40	1	5	10	9	10	2			
621-30			11	1	10	5			
611-20			7	5	5	5	1		
601-10			5	2	2	4			
591-600			2	3	2	2	1		
581-90			3	1	9	2	1		
571-80			1	1	2	1			
561-70				1	3				
551-60					2				
541-50					2	1			
531-40					1		1		
521-30						2			
511-20									
501-10						1			

The band covers 198 out of 250, i.e. 79.2 per cent. In other words, in just under 8 cases out of 10 we can rely on the passive test to give the same result as the active test (within the above-mentioned limits).[5]

A more technical way of describing the correlation existing between the two tests is by means of a correlation coefficient, which can be calculated by means of the so-called product-moment formula.[6] A correlation coefficient of +1 denotes perfect positive correlation, and one of -1 denotes perfect negative correlation, zero meaning absence of correlation. The correlation coefficient which can be calculated for the two tests in question is +0.58.

A word of comment may not be amiss. The magnitude of the correlation coefficient of the two tests is roughly the same as that which is normally obtained for two halves of the same test where one half is of the multiple-choice type, and the other, designed to test the same sphere of knowledge, is of the essay type, i.e. more subjective. In comparisons such as these the very nature of one of the compared entities, the more subjective test or part of the test, precludes a very high correlation coefficient because subjective tests will normally have lower reliability, in the technical sense, than objective ones. In this particular case, some of the active test papers were marked by one examiner and some by another, which probably reduced the reliability of the active test still more. - Viewed in this light the evidence in favour of a fairly strong bond between active and passive proficiency in English pronunciation seems to me to be satisfactory.

Now that it has been made probable that the link between active and passive proficiency in English pronunciation is reasonably strong, so that one type can be used to predict the other (with some qualifications), many specific problems connected with this general one call for our attention. For example, is the power of prediction in the case of the passive test greater in phonology than in intonation? Why do some students deviate from the general pattern in such a way that the their perception seems to be good but their production poor? Are the reasons to seek in articulatory defects, in different scholastic experience, in the influence of dialect features in their native Swedish? Question of this kind are to some extent being currently dealt with in the English Department of the University of Göteborg,

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[5] It should perhaps be pointed out that a discrepancy between the results of the active and the passive tests need not mean that the passive test measures actual active proficiency so much less efficiently. The truth may lie somewhere between the results of the active and the passive tests.

[6] See G. Herdan, Quantitative Linguistics, London 1964, p. 96f.

and the answers may in some cases lead to modifications of the passive test.

A project which is of immediate practical interest arises out of the active-passive comparison. Language laboratory programmes can be made to link up with the separate units of the passive test; the test and the programmes will then stand in a direct diagnostic-therapeutic relationship to each other. A person whom the test shows to have difficulties in perceiving the distinction between, say, /z/ and /s/ will be offered a programme covering just that distinction. It is hoped that in this way his shortcomings will be detected and remedied quickly and efficiently. A battery of test-based programmes will thus have to be devised to achieve the maximum therapeutic effect.

To sum up, the new pronunciation test is economical and objective. It seems to be a useful instrument for measuring passive proficiency in pronunciation, i.e. perception. It can also be claimed to measure active proficiency in pronunciation, i.e. production, within reasonable limits, but this must depend on what we mean by reasonable. Although there is certainly room for refinements, it could fulfil an important function in the teaching machinery of modern language departments and, for that matter, in secondary schools, too. In any case, its use effectively brings home to us the importance of research in the field of active versus passive language proficiency.